Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

1-18. (Canceled).

19. (Currently Amended) A circuit for converting packets arriving at irregular intervals into ~~a~~ an STM signal in SDH ~~which is a transmission unit in a synchronous digital transmission standard~~, wherein ~~said~~ the circuit is used in a transmission device for transmitting the packets, the ~~said~~ circuit comprising:

~~means for converting~~ a unit configured to perform a buffering process for the packets to convert the packets into a plurality of data streams;

~~means for multiplexing~~ a unit configured to map the data streams into an SDH section payload without adding any overhead for upper layer transmission; and

~~means for generating~~ a unit configured to generate ~~said~~ the STM signal by adding at least one overhead ~~to the multiplexed data streams~~ data of the SDH section payload.

20. (Currently Amended) The circuit as claimed in claim 19, wherein ~~said~~ the packets are IP packets which are used for realizing a communication by the Internet Protocol.

21-23. (Canceled).

24. (Currently Amended) A circuit for converting an STM signal in SDH transmission into packets to be sent at irregular intervals, wherein ~~said~~ the circuit is used in a transmission device for transmitting the packets, ~~said~~ the circuit comprising:

~~means for separating~~ a unit configured to separate at least one overhead ~~which is necessary for said SDH transmission~~ from data of an SDH section payload in ~~said~~ the STM signal;

~~means for generating~~ a unit configured to perform a buffering process for the data of the SDH section payload to generate data streams ~~by demultiplexing data of said STM signal without the overhead~~; and

~~means for extracting~~ a unit configured to extract the packets from the data streams by using at least one data link layer process.

25. (Canceled).

26. (Currently Amended) The transmission device as claimed in claim 24, wherein ~~said~~ the packets are IP packets which are used for realizing a communication by the Internet Protocol.

27. (Currently Amended) A transmission device comprising a first circuit and a second circuit, ~~for transmitting packets by using a transmission unit in a synchronous digital transmission standard, said transmission device comprising:~~ wherein the first circuit converts first packets arriving at irregular intervals into a first STM signal in SDH, and the second circuits converts a second STM signal in SDH, and the second circuits converts a second STM signal in SDH into second packets to be sent at irregular intervals,

~~a~~ the first circuit comprising:

~~means for converting~~ a unit configured to perform a first buffering process for the first packets to convert the first packets into a plurality of first data streams,

~~means for multiplexing~~ a unit configured to map the first data streams into a first SDH section payload without adding any overhead for upper layer transmission,

~~means for generating~~ a unit configured to generate ~~a~~ the first STM signal ~~which is the transmission unit~~ by adding at least one overhead to ~~the multiplexed data streams~~ data of the first SDH section payload; and

~~means for sending~~ a unit configured to send the first STM signal ~~by said synchronous digital transmission~~; ~~and~~

~~a~~ the second circuit comprising:

~~means for separating~~ a unit configured to separate at least one overhead from ~~said signal~~ data of a second SDH section payload in the second STM signal;

~~means for generating~~ a unit configured to perform a second buffering process for the data of the second SDH section payload to generate second data streams ~~by demultiplexing data of said signal without the overhead~~; and

~~means for extracting~~ a unit configured to extract the second packets from the second data streams by using at least one data link process.

28. (Canceled).

29. (Currently Amended) The transmission device as claimed in claim 27, wherein ~~said~~ the packets are IP packets which are used for realizing a communication by the Internet Protocol.

30.-31. (Canceled).

32. (Currently Amended) A transmission system ~~for transmitting packets by using a transmission unit in a synchronous digital transmission standard, said transmission system comprising:~~ comprising a plurality of transmission devices each of which comprises: a first circuit and a second circuit and a unit for establishing a connection to another transmission device, wherein the first circuit converts first packets arriving at irregular intervals into a first STM signal in SDH, and the second circuits converts a second STM signal in SDH into second packets to be sent at irregular intervals,

~~a~~ the first circuit including:

~~means for converting~~ a unit configured to perform a first buffering process for the first packets to convert the first packets into a plurality of first data streams;

~~means for multiplexing~~ a unit configured to map the first data streams into a first SDH section payload without adding any overhead for upper layer transmission,

~~means for generating~~ a unit configured to generate ~~a~~ the first STM signal ~~which is the transmission unit~~ by adding at least one overhead to ~~the multiplexed data streams~~ data of the fist SDH section payload; and

~~means for sending~~ a unit configured to send the first STM signal ~~by said synchronous digital transmission~~; and

~~a~~ the second circuit including:

~~means for separating~~ a unit configured to separate at least one overhead from ~~said signal~~ data of a second SDH section payload in the second STM signal;

~~means for generating~~ a unit configured to perform a second buffering process of the data of the second SDH section payload to generate second data streams ~~by demultiplexing data of said signal without the overhead~~; and

~~means for extracting~~ a unit configured to extract the second packets from the second data streams by using at least one data link layer process; and

~~means for establishing a connection between said transmission devices by using said signal~~.

33. (Canceled).

34. (Currently Amended) The transmission system as claimed in claim 32, wherein ~~said~~ the packets are IP packets which are used for realizing a communication by the Internet Protocol.

35. (Currently Amended) A method for converting packets arriving at irregular intervals into an STM signal in SDH transmission, wherein said method is used in a transmission device for transmitting the packets, ~~said~~ the method comprising the steps of:

~~converting~~ performing a buffering process for the packets to convert the packets into a plurality of data streams ~~by using at least one data link layer process~~;

~~multiplexing~~ mapping the data streams into an SDH section payload ~~by using at least one interleaving process~~ without adding any overhead for upper layer transmission ~~of a VC signal and generating STM data which is a unit of said SDH transmission~~; and

generating ~~said~~ the STM signal by adding at least one overhead ~~which is necessary for said SDH transmission to the STM data~~ to data of the SDH section payload.

36. (Currently Amended) A method for converting an STM signal in SDH transmission into packets to be sent at irregular intervals, wherein ~~said~~ the method is used in a transmission device for transmitting the packets, ~~said~~ the method comprising the steps of:

separating at least one overhead ~~which is necessary for said SDH transmission~~ from data of an SDH section payload in ~~said~~ the STM signal;

~~generating~~ performing a buffering process for the data of the SDH section payload to generate data streams ~~by demultiplexing data of said STM signal without the overhead~~; and

extracting the packets from the data streams by using at least one data link layer process.